

METHOD AND SYSTEM FOR EXPLOITING SERVICE LEVEL OBJECTIVES TO
ENABLE RESOURCE SHARING IN A COMMUNICATION NETWORK HAVING A
PLURALITY OF APPLICATION ENVIRONMENTS

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ABSTRACT OF THE INVENTION

A method and system for resource sharing in a communication network supporting a plurality of application environments. Specifically, one embodiment of the present invention discloses a method ensuring only sufficient computational resources are used by a multi-component system as needed to meet system, subsystem, and/or component-level service level objectives. Demand values are calculated for a plurality of components in an application environment.

10 The demand values are calculated from throughput and utilization metrics collected at each of the plurality of components. Response time metrics are predicted from the demand values. The application environment is modeled in response to the response time metrics to determine the optimum number of computational resources needed for each of the components in satisfying a functional objective. A dynamic resource manager communicates with a plurality of component managers, one for each of the plurality of components, to allocate computational resources throughout

15 20 25 the application environment.